THE FOX SPARROW AS A SONGSTER.

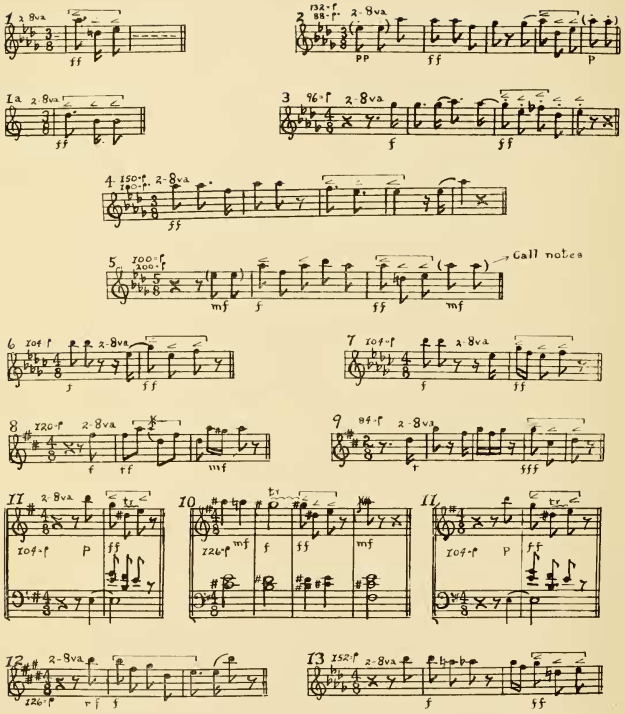
BY ROBERT THOMAS MOORE.

DURING those brief March days, when he slips through our thickets, the Fox Sparrow sings so sweetly that we conclude he is doing his best. Not until we have heard his finished songs leaping out of the Canadian woodlands and sounding a riot of pure joy, as they are tossed from hill to hill, do we realize how much injustice we have done him. For those migrant strains, even at their best, are mere beginnings, the timid tuning up of the vocal instruments for the great song-fest to come. The fact is the migrant songs, which I have heard, lack nearly every quality which makes the finished product the great song it is. Loud as the former seem, their power is as nothing compared to that which propels the northern challenge, even the tone quality is defective, lacking in full depth and roundness, and most vital of all the dancing rhythm with its powerful central accents, which gives the northern songs the expression of irrepressible joy, is entirely absent. To appreciate this, one must go as far as the Magdalen Islands in the Gulf of St. Lawrence, for these islands mark the southern limit of nesting Fox Sparrows.

With this purpose in view, I found myself on June 15, 1911, at Pictou, N. S., ready to take the biweekly steamer across the eighty miles of gulf waters. Much to my surprise neither there nor in Souris, Prince Edward Is., did I happen on a single individual of this species, yet the following day in the Magdalens, only sixty miles farther north, I found it one of the most common birds, exceeded in abundance only by the Savannah Sparrow and the Blackpoll Warbler. From June 16 until July 5, with the exception of six days on Bird Rock, several hours of each twenty-four were spent with the Fox Sparrow and some days were given up to him entirely. During this period we went to various portions of the islands from East Point to Grindstone, a distance of forty miles and more, and the records secured are therefore representative. Each new region brought to light some variations, but these were slight, the main features remaining unchanged. Wherever we

went, as long as we kept to wooded districts, we were bound to find this robust sparrow and there he would be the loudest, most constant and most conspicuous songster. Ubiquitous as he was, it was not an easy matter to secure complete records of his songs. The difficulty was not with his pitch, which is very true, nor with his tones, which are free of "burred notes," but with the contrast of intensity in the songs themselves. These consist of such a variety of extremely loud and soft sounds that one must get within ten feet of the bird to hear every one distinctly, a difficult problem with any songster, especially one rather shy of intrusion near his song-site. Despite this I secured a number of records, most of which (Nos. 4 to 12 inclusive) are exact representations and the rest lacking only insignificant notes. I have also a large number of fragments such as No. 1, which are of almost equal value in determining universal characteristics. Besides these I heard a great number of songs, which so closely resembled records 2, 5 and 9 that it seemed useless to note them. These three records are the most distinctive and are typical of the great majority of Magdalen songs. To this class belonged some of the most beautiful and longest ones I heard, in fact the records do not represent the length of the best Fox Sparrow songs. Some of them were quite intricate and were purposely avoided until the shorter ones had been mastered. At this point the expedition to Bird Rock intervened and our return on July 1 found the song-season on the wane and the songs curtailed to their central themes. Records 6, 7 and 11 are instances of this and all, except 4 and 5, were obtained during this waning period. Nevertheless they are adequate for the purpose of this article, which is to give by the help of their illustrative value some idea of general characteristics, rather than exact musical representations of the best this finch can do.

The song-sites of the Fox Sparrow are conditioned by his habitat. Wherever there are low evergreens massed in dense clumps — and this is the condition of a large part of the Magdalen woodland — there he will be found. It makes no difference whether those clumps abut on inland fields or front the storms on some precipitous headland, out along their edges these sturdy finches are bound to be and will be heard at all times of the day, be it sunlit or foggy. Each individual has his own particular clump and one



SONGS OF THE FOX SPARROW.

or more song-sites in that clump, so that it is possible to go out day after day and find the same songster and hear the same song. Sometimes his favorite tree is five feet high and sometimes twenty, ordinarily it is ten, and whatever its height, it is usually a spruce and is always on the edge of the clump, now facing an inner open space, or again the outer world and other songsters. His favorite song-position on the tree is its tip. A point a foot below may be chosen, but never the lower branches and by no means the ground.

The last place is the region of his nest and from there no sounds are issued except call-notes. These consist of two kinds quite different from each other and neither musical. The most common is an explosive aspirate, which may be indicated by the syllable 'chech' and is as loud as the call of the Hermit Thrush. The second is a fine, high-pitched note, which closely resembles the call of the Savannah Sparrow. The former is heard much more frequently and in conjunction with the latter is employed to protest against intrusion near the nest. It is to protect his treasures that he drops to earth or else to help his mate in solving nest-problems, but he cannot stay there long; the impulse towards expression is too strong and he is soon back on his song-site.

On the other hand he does not like to sing alone and, if his first three or four efforts are not answered, he will dive back to his mate. In like manner, when several birds are singing, and one suddenly stops, the rest become discouraged and one after another follow him to earth, although they may be a long distance from each other. Down they go together and after a bustling ten minutes with their mates, almost together they return. On several occasions I watched a single bird start a whole song-group. Cautiously he flitted upwards from limb to limb taking a minute to reach the top, then, when a careful survey had convinced him of safety, the bill raised, the eyes filmed and out across the valley rang the dancing challenge. The last note tossed off, the bill dropped again, the eyes brightened to alertness and the head cocked sidewise into a listening attitude. A minute might pass without the challenge being answered, when it was sent once more ringing over the hills so powerfully, that even a human might have heard it a half a mile. Almost always the second challenge brought a response from the opposite hill and thereafter reply and answer shot back

and forth, allowing plenty of time for pause and effect. Soon a third bird seized a moment of silence and turned the duo into a three-cornered affair and once I noted four rusty-coats shooting up their songs alternately like so many rockets from as many hills. This was not a single instance, but the customary way in which after an intermission song was resumed. Of course I do not mean to assert that Fox Sparrows are always so decorous and never interrupt each other, for they do at times during the day and more often at sunset, when there are too many songsters for each to be respectful. Even then the singing is not chorus fashion, for the tendency toward alternation is still preserved, though one bird often begins before another has finished. What I wish to state is this, that each Fox Sparrow is influenced by all others of his kind within hearing, that he certainly listens to their performance, and that this habit of listening has tended to produce an alternation of song, which generally results in the antiphonal effect of answer and reply.

That this influence is something more than mere accident or sentiment, is brought to light when the songs are studied from a musical standpoint. Records 2, 3, 4, 5 and the fragment 1 were sung from the hills surrounding one valley near Grosse Isle by five different birds. No two of these were more than a third of a mile from each other and therefore, if birds have even as good ears as man, within easy hearing distance. Three of their songs, Nos. 1[1], 2 and 3, were secured the same afternoon, when these three birds were taking part in an alternating trio, during which each bird sang, listened and waited his turn. On other afternoons the authors of songs 4 and 5, were heard answering each other for long periods of time and on still others No. 5 answered members of the first trio. Now the interesting fact is this, that all five of these songs are in the *same key*, D♭, and three of them use precisely the *same sounds* for their three most important notes, those marked by brackets. This phrase, as will be shown later, is the backbone of every song, its loudest portion, and therefore being

[1] This phrase was only a small portion of the song, the rest of which could not be obtained on account of the bird's shyness. However it was the most important part and, as it is identical with the similar portions of Nos. 2 and 5, it seemed worthy of insertion.

heard farthest, is most likely to be exactly imitated. The following day at Grindstone, twenty-five miles from Grosse Isle, songs 6 and 7 were heard in close proximity, using likewise a common key E♭ minor. In this case the same time and almost identical notes were employed, and yet both notes and key were totally different from those of the Grosse Isle birds. This sort of thing I noticed a number of times, in fact every time the birds of a group sang long enough for me to pitch their songs and secure evidence. For instance records Nos. 8 and 9 are also in a common key and were rendered by birds whose song-sites were close to each other, though the birds were not heard on the same occasion. In the case of bird No. 8 I was witness of an interesting incident. As I was writing down his notes, another Fox Sparrow flew up to a spruce opposite and answered him in the same key and with almost the identical song. After singing it three or four times in an uncertain fashion, he broke out confidently into an entirely different melody, more resembling No. 2, but still keeping in key D of song 8. Unfortunately he stopped singing before I had time to record his song. This was the only occasion when I heard a Fox Sparrow sing two songs, for unlike the Song Sparrow, the Fox seems to have but one and is content to repeat it over and over, making slight additions at the height of the season or reducing it at the end note by note to its melodic skeleton. This case was probably not a clear instance of two songs, but a momentary lapse, merely indicating how one bird is influenced by another and his songs gradually modified. One other case is enlightening, that of Nos. 10 and 11, whose authors answered each other constantly. These two birds did not sing in the same key, yet their songs contain common sounds and are so closely related that one makes a beautiful finish [1] to the other. Furthermore both of these songs contain trills, very unusual features in the songs of this species. In each of these four groups there were more birds whose songs I was not able to record. Here then were four sets of Fox Sparrows, each set separated by several miles of territory and each exhibiting remarkable similarities within the group and variations without. Just

[1] To show this relation I have placed Song 10 between two renditions of No. 11 and have added an accompaniment which, of course, was not sung by the birds!

as we would expect, the most distant groups display the greatest divergences, the songs of Grindstone, for instance, manifesting a tendency toward ornamentation, such as trills, rests and grace notes and being rendered in four time, whereas the songs of Grosse Isle are plainer and usually in three or five time.

Having noticed these similarities within the groups, we are next concerned to discover those characteristics which are constant in all Fox Sparrow songs. It has already been intimated that he is not at all particular whether there are 2, 3, or 5 eighth notes in a measure; equally indifferent is he to the use of grace notes, dotted notes, staccato notes and trills, which may or may not be present. Sometimes he will satisfy the demands of human music by returning at the close to a note of the common chord, with which he started, or again he will end aimlessly as in records 6 and 7 or ask a positive question as in No. 8. Furthermore he occasionally slips into minor keys (Records 6, 7, and 11), a most unexpected lapse, when one considers what dancing movements of joy his phrases are. But despite this inconstancy there are certain fundamental characteristics which never change. First, the quality of tone is always round and full, like the sound of a clear flute-note. It is not rendered ambiguous by what Mr. Schuyler Matthews calls "burred tones," on the other hand it is not enriched by those overtones, which make the notes of the Wood Thrush so ethereal. It is decidedly human without touch of heavenly rapture, just a clear full tone, which is precisely the best medium for a message of joy and the most invigorating imaginable. A second invariable characteristic is the medium pitch of the songs and here the Fox Sparrow differs from the Hermit Thrush and many of our greatest songsters, who climb to such shrill heights that one sometimes doubts their sense for beauty.[1] Our more sensible finch does not sing a note which a human being cannot whistle and all of them are pitched in those last two octaves of the piano, which seem to be the most satisfying region for the expression of bird-music. In the third place every song is extremely loud at least in its fundamental sounds, so that it can be heard half a mile. Sometimes the

[1] Nevertheless we must not forget that what is beautiful to our ears, may not be to a bird's, and vice versa.

whole song is loud, as in No. 2, but as a rule only the central phrase while the beginning and end are soft. A fourth characteristic is subject to little change: the rate of time is always fast, and I say this notwithstanding that record No. 9, my slowest record, was sung only about half as fast as No. 13, for the former was in great contrast with the majority of the songs, which ran nearer to the speed of No. 13. Some of the songs, which were not secured, went even faster and were rung off at such extreme speed that they could hardly be imitated by a human whistler. It is this speed which gives the songs their lively character. There is then practically no variation in these four relations,— quality of tone, pitch, intensity and time and these are the fundamental relations of music.

When we come to the study of more general characteristics, we find there are others which are practically constant. As a whole the Fox Sparrow's song may be described as follows: it opens with two 'chechs,' the low call-note, much like the Hermit Thrush's beginning, then the main song starts high and soft and bursts forth into extremely loud sounds, accenting heavily a characteristic falling phrase of three notes and finally ends as soft as it began, but usually at lower pitch. It may also close with two high call-notes of poor musical quality. The opening and closing call-notes are indicated as near as possible to the proper pitch in record No. 5. All the songs of Grosse Isle, at the height of the song-season, except No. 4, possessed them. Their absence from records 2 and 3 is due to the fact that in these the exact pitch could not be determined. These notes are not, however, important, but the central phrase is. It is the most noticeable part of the song and always consists of a sharp drop in pitch from the first note to the second and a subsequent slight rise from the second to the third. The drop may be a 'fifth,' 'fourth,' or 'second,' but the rise is almost invariably a half tone. Each one of the three is accented just as heavily and sung just as loud as the other two and, except in No. 1, each tone is given the same amount of time. Throughout the records this phrase is indicated by brackets above the score. Ninety-five per-cent of the songs have it, I should judge, and the rest rudimentary traces. In fact it was so characteristic that I got in the habit of disregarding songs that possessed it and recording all that evinced tendencies to do away with it. The result is, I have such records

as No. 7, where the drop is turned into a triplet of three sounds, Nos. 3 and 12 where it is doubled, and Nos. 4 and 8, where it has almost disappeared. These are the only instances and against them I heard hundreds, which were all rendered in the positive way No. 9 is. Indeed all my fragments consist without exception of this fundamental phrase and whatever else could be secured before the bird ceased singing. This phrase was obtained invariably before other sounds, because it stood out so conspicuously. It is always the loudest portion of the songs, if there is any change of intensity, and yet the preluding soft notes never approach it by means of crescendo. When they have danced the melody up to this point, it simply *bursts* with startling suddenness into the phrase, showering extravagant accents on all three notes. Mr. Cheyney has used the rocket illustration to record his impression of the Hermit Thrush's song, but it can be more fitly applied to the Fox Sparrow's, though the rocket in this case travels horizontally. It starts in mid-sky and darting along with scintillating but suppressed power, suddenly flares out with the accompaniment of dazzling light and triumphant sound; then there is a mighty drop and exultant recovery and a final sputter as it leaps into silence.

To use a term of psychology this central theme is the song's *point of orientation* or the part which invariably compels attention first. One might call it the recognition-phrase of the species, certainly for human ears, and possibly for birds'. Over and over again I heard Fox Sparrows' songs far across the hills and always this phrase alone had sufficient carrying power to be audible, yet it was adequate for the immediate identification of the song. And I think it would be an unconscious recognition-note even for bird-students, who are not musical and could not define it in musical terms. Of course more obvious to them would be the loudness of the song, its speed and the flute-like quality of tone. To the birds also it seems fundamental, for as I have shown, it is the only phrase of the song which remains constant. But I have another bit of evidence, which ought to be convincing. During July when all other notes are dropping off with the waning song-season, this central phrase is kept intact to the very last. Records 6 and 7, secured July 3, show this and more so No. 11, obtained the same afternoon. The last contains only one sound more than the three

of the phrase, and yet that one was sung very soft, while the others were propelled with the same power they had been in June. In connection with this I might mention an incident, which may or may not be considered evidence, though it does prove how birds are influenced by songs about them. I had been endeavoring to get near enough to record the softer tones of the shy author of fragment 1. This bird and some of his song-group not recorded, were singing the central phrase in a peculiar jerky fashion, giving the first note twice as much time as the second. After a few minutes a new songster entered the group, who sang these three notes in a hoarse, hard tone and in lower pitch (see record 1A), and sang no other notes whatever. Stealing up, I was astonished to see a Robin uttering the rasping sounds. Instantly he flew away to the next clump of trees and sang the rollicking song of his kind, but still in hoarse quality.

To me the Fox Sparrow stands out as the singer of joy. Many birds are of this kind, but few are to such a degree as this inhabitant of the stunted woodlands of the North. The musical construction indicates it, for instance the dancing rhythm, the major keys, and the speed with which it fairly shoots through the central phrase. But deeper than these are certain qualities in his physical being and character, which make for happiness: his robustness and virility, his excessive activity in all his waking hours. As evidence of his energy it has been stated that he sometimes scratches with both feet in concert, but my observations indicate that he always does this and that this accounts for the clatter he makes among the leaves. At any rate his energy is quite as strenuous as that of his cousin, the Chewink, whether he is tossing the leaves in search of food or defying the northern fog with his buoyant song. Under no circumstances is he depressed! Evidence of this we obtained repeatedly in the Magdalens. Most every day it rained and even when the sun shone, it was a common occurrence for fog to creep in from the sea and resume full sway. Other birds stopped singing, but not the Fox Sparrow! His song rang out just as buoyant and golden as when sunlit; indeed there was a suppressed eagerness about it, as if it were contesting the supremacy of the mist. Now this is surely optimism and, when one takes him all in all, it is as an optimist that he attains highest rank. As such one